

Title (en)
SYSTEM FOR EVALUATING THE CAPABILITY OF A WORK-PERFORMING ROBOT TO REPRODUCE A PROGRAMMED SERIES OF MOTIONS

Publication
EP 0037704 B1 19840321 (EN)

Application
EP 81301415 A 19810401

Priority
US 13723480 A 19800404

Abstract (en)
[origin: US4305028A] A system for evaluating whether a work-performing robot can perform a series of programmed motions is disclosed which includes means for continuously comparing the velocity of the various links of a robot simulator, which is manually moved through the sequence of motions to be programmed, against predetermined velocity limits associated with the corresponding links of the work-performing robot which will reproduce the programmed steps, and providing humanly perceptible alarm indications uniquely identifiable with the various robot links when the motions manually programmed on the robot simulator exceed the velocity limits of the work-performing robot. Additionally, the individual velocities of the various robot simulator links are summed, and the sum continuously compared against the power limit of the hydraulic pump driving the link actuators of the work-performing robot. Should the aggregate velocity of the robot simulator links exceed the power capability of the hydraulic pump, that is, the pump capacity, an alarm indication is provided. In spray coating robot applications, the alarm indications occasioned by excessive link velocities, as well as excessive demands on the hydraulic pump, are recorded along with information indicating whether or not during a particular alarm condition the spray gun was ON or OFF. This record enables the manually programmed motion sequence to be evaluated to determine whether or not the alarm conditions which occurred during programming can be safely ignored and the program used to operate the work-performing robot.

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